Notice of Allowability	Application No.	Applicant(s)
	09/464,364	SANCHEZ ET AL.
	Examiner	Art Unit
	Nelson D. Hernandez	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2 September 2005*.

2. ☒ The allowed claim(s) is/are *4,5,12-15,31-33,35 and 36*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

Response to Amendment

1.   Examiner acknowledges the amendments made on the claims received on

September 2, 2005. Claims 4, 5, 13, 14, 31-33, 35 and 36 have been amended.

Claims 1-3, 6-11, 16-30 and 34 have been cancelled.

Allowable Subject Matter

2.   **Claims 4, 5, 12-15, 31-33, 35 and 36** are allowed.

3.   The following is a statement of reasons for the indication of allowable subject

matter:

Regarding claim 4, the main reason for indication of allowable subject matter is

because the prior art fails to teach or reasonably suggest that said correcting is

achieved by replacing said defective pixel's brightness value by said defective pixel's

local brightness value, wherein said detecting includes video sub-sampling, wherein

using video sub-sampling said detecting is carried out on video data frames at a rate of

one of every n video frames, the n being no less than 32.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting

defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col. 8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels (Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that said correcting is achieved by replacing said defective pixel's brightness value by said defective pixel's local brightness value, wherein said detecting includes video sub-sampling, wherein using video sub-sampling said detecting is carried out on video data frames at a rate of one of every n video frames, the n being no less than 32.

Regarding claim 5, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest performing the detecting and correcting of the defective pixels dynamically and without any operator intervention, wherein said detecting includes video sub-sampling, wherein using video sub-sampling said detecting is carried out on video data frames at a rate of one of every n video

frames, the n being no less than 32, and wherein said correcting is continuous on every video data frame.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 – col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal pixels and defective pixels, said method comprising the steps of: receiving a raw data signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines 12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel received from said image sensor a local brightness deviation of said brightness value from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col. 14, lines 12-38); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 14, lines 12-38). Kohashi also discloses correcting the brightness value of said defective pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting defective pixel data in raw data taken from an image sensor of a portable image capture device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes normal pixel data and defective pixel data, said method comprising the steps of: receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col.

8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step

are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col.

9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting

defective pixels wherein the location of the defective pixels are recorded in a statistical

database and recording the frequency of occurrence of said defective pixel in said

statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting

the brightness value of said defective pixels, provided said correcting is warranted by

trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach

or reasonably suggest performing the detecting and correcting of the defective pixels

dynamically and without any operator intervention, wherein said detecting includes

video sub-sampling, wherein using video sub-sampling said detecting is carried out on

video data frames at a rate of one of every n video frames, the n being no less than 32,

and wherein said correcting is continuous on every video data frame.

Regarding claims 12 and 15, the main reason for indication of allowable subject

matter is because the prior art fails to teach or reasonably suggest that the statistical

database warrants pixel correction is a particular defective pixel has an occurrence

frequency of at least two out of four queries; and wherein said detecting is carried out

on video data at a rate of one of (a) between one of every 128 video frames and 1 of

every 32 video frames, and (b) one of every n times X frames, where n is an integer and

X in not equal to either 50 or 60, and where said correcting is carried out continuously

on every video data frame.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting

defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col.

8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step

are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the statistical database warrants pixel correction is a particular defective pixel has an occurrence frequency of at least two out of four queries; and wherein said detecting is carried out on video data at a rate of one of (a) between one of every 128 video frames and 1 of every 32 video frames, and (b) one of every n times X frames, where n is an integer and X in not equal to either 50 or 60, and where said correcting is carried out continuously on every video data frame.

Regarding claim 13, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the detecting includes video sub-sampling, wherein using video sub-sampling said detecting is carried out on video data frames at a rate between one of every 128 video frames and 1 of every 32 video frames, and wherein said correcting is continuous on every video data frame.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col. 4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col. 8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels (Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the detecting includes video sub-sampling, wherein using video sub-sampling said detecting is carried out on video data frames at a rate between one of every 128 video frames and 1 of every 32 video frames, and wherein said correcting is continuous on every video data frame.

Regarding claim 14, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest the detecting includes video sub-sampling, wherein using video sub-sampling said detecting is carried out on video data frames at a rate of one of every n times X frames, where n is an integer and where X is not equal to either 50 or 60.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 – col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal pixels and defective pixels, said method comprising the steps of: receiving a raw data signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines 12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel received from said image sensor a local brightness deviation of said brightness value from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col. 14, lines 12-38); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 14, lines 12-38). Kohashi also discloses correcting the brightness value of said defective pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col.

8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step

are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col.

9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting

defective pixels wherein the location of the defective pixels are recorded in a statistical

database and recording the frequency of occurrence of said defective pixel in said

statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting

the brightness value of said defective pixels, provided said correcting is warranted by

trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach

or reasonably suggest the detecting includes video sub-sampling, wherein using video

sub-sampling said detecting is carried out on video data frames at a rate of one of every

n times X frames, where n is an integer and where X is not equal to either 50 or 60.

Regarding claim 31, the main reason for indication of allowable subject matter is

because the prior art fails to teach or reasonably suggest that the statistical database,

by storing the location and frequency of defective pixels, develops over time trends

which confirm which of said defective pixels are warranted for pixel correction, wherein

said trends initially warrant pixel correction as a default and over time warrant pixel

correction only if a particular defective pixel has an occurrence frequency of at least two

out of four queries.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting

defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col. 14, lines 12-38); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 14, lines 12-38). Kohashi also discloses correcting the brightness value of said defective pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting defective pixel data in raw data taken from an image sensor of a portable image capture device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes normal pixel data and defective pixel data, said method comprising the steps of: receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8, line 44 – col. 9, line 19); computing for each pixel received from said image sensor a brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4, line 2); computing for each pixel received from said image sensor a local brightness deviation of said brightness value from said local brightness value (Col. 3, line 30 – col. 4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col. 8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the statistical database, by storing the location and frequency of defective pixels, develops over time trends which confirm which of said defective pixels are warranted for pixel correction, wherein said trends initially warrant pixel correction as a default and over time warrant pixel correction only if a particular defective pixel has an occurrence frequency of at least two out of four queries.

Regarding claim 32, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the computer program causes said detecting to be carried out on video data frames at a rate between one of every 128 video frames and 1 of every 32 video frames, and said computer program causes said correcting to be carried out continuously on every video data frame.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col. 4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col. 8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels (Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the computer program causes said detecting to be carried out on video data frames at a rate between one of every 128 video frames and 1 of every 32 video frames, and said computer program causes said correcting to be carried out continuously on every video data frame.

Regarding claim 33, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the computer program causes said detecting to be carried out on video data frames at a rate of one of every n times X frames, where n is an integer, and where X is not equal to either 50 or 60, and said computer program causes said correcting to be carried out continuously on every video data frame.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 – col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal pixels and defective pixels, said method comprising the steps of: receiving a raw data signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines 12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel received from said image sensor a local brightness deviation of said brightness value from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col. 14, lines 12-38); comparing for each pixel received from said image sensor, its local brightness deviation to said deviation threshold and designating pixels having local brightness deviations greater than said deviation threshold as defective pixels (Col. 14, lines 12-38). Kohashi also discloses correcting the brightness value of said defective pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col.

8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step

are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col.

9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting

defective pixels wherein the location of the defective pixels are recorded in a statistical

database and recording the frequency of occurrence of said defective pixel in said

statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting

the brightness value of said defective pixels, provided said correcting is warranted by

trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach

or reasonably suggest that the computer program causes said detecting to be carried

out on video data frames at a rate of one of every n times X frames, where n is an

integer, and where X is not equal to either 50 or 60, and said computer program causes

said correcting to be carried out continuously on every video data frame.

Regarding claim 35, the main reason for indication of allowable subject matter is

because the prior art fails to teach or reasonably suggest that the execution of said

computer program product does not increase processor load by more than between 1

percent to 80 percent.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting

defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 –

col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal

pixels and defective pixels, said method comprising the steps of: receiving a raw data

signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel

received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines

12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col.

8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels

(Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step

are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the execution of said computer program product does not increase processor load by more than between 1 percent to 80 percent.

Regarding claim 36, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the execution of said computer program product does not reduce video processing by more than 1 frame per second.

Kohashi, US Patent 6,642,960 B1 discloses a method of detecting and correcting defective pixels in raw data taken from an image sensor (Fig. 2: 4) (Col. 11, line 66 – col. 12, line 13) used to obtain a digitized image, wherein said raw data includes normal pixels and defective pixels, said method comprising the steps of: receiving a raw data signal for each pixel in said image (Col. 12, lines 14-39); computing for each pixel received from said image sensor a brightness value (Col. 13, lines 4-39; col. 14, lines 12-38, col. 18, line 47 – col. 19, line 4); computing for each pixel received from said

image sensor a local brightness value (Col. 14, lines 12-38); computing for each pixel

received from said image sensor a local brightness deviation of said brightness value

from said local brightness value (Col. 14, lines 12-38); setting a deviation threshold (Col.

14, lines 12-38); comparing for each pixel received from said image sensor, its local

brightness deviation to said deviation threshold and designating pixels having local

brightness deviations greater than said deviation threshold as defective pixels (Col. 14,

lines 12-38). Kohashi also discloses correcting the brightness value of said defective

pixels (Col. 12, lines 14-39).

Tan, US Patent 6,625,318 B1 discloses a method of detecting and correcting

defective pixel data in raw data taken from an image sensor of a portable image capture

device (Fig. 7: 730) used to obtain a digitized image, wherein said raw data includes

normal pixel data and defective pixel data, said method comprising the steps of:

receiving at an intelligent host a raw data signal for each pixel in said image (See col. 8,

line 44 – col. 9, line 19); computing for each pixel received from said image sensor a

brightness value (Col. 3, lines 9 – col. 4, line 48; col. 6, lines 31-65); computing for each

pixel received from said image sensor a local brightness value (Col. 3, line 30 – col. 4,

line 2); computing for each pixel received from said image sensor a local brightness

deviation of said brightness value from said local brightness value (Col. 3, line 30 – col.

4, line 2); setting a deviation threshold (Col. 6, lines 29-65); comparing for each pixel

received from said image sensor, its local brightness deviation to said deviation

threshold and designating pixels having local brightness deviations greater than said

deviation threshold as defective pixels (Col. 6, line 31 – col. 7, line 15); recording the

location of said defective pixels in a statistical database (Col. 3, line 30 – col. 4, line; col. 8, line 44 – col. 9, line 10); and correcting the brightness value of said defective pixels (Col. 9, lines 45-60), wherein the computing steps, comparing step, and correcting step are performed by the intelligent host (Col. 3, line 3 – col. 7, line 15; col. 8, line 44 – col. 9, line 60).

Peairs, US Patent 5,694,228 teaches a method of detecting and correcting defective pixels wherein the location of the defective pixels are recorded in a statistical database and recording the frequency of occurrence of said defective pixel in said statistical database (See col. 4, line 21 – col. 5, line 14). Peairs also teaches correcting the brightness value of said defective pixels, provided said correcting is warranted by trends from said statistical database (Col. 3, line 52 – col. 4, line 2).

However, Kohashi, Tan and Peairs, either alone or in combination fails to teach or reasonably suggest that the execution of said computer program product does not reduce video processing by more than 1 frame per second.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:00 A.M. to 5:30 P.M..
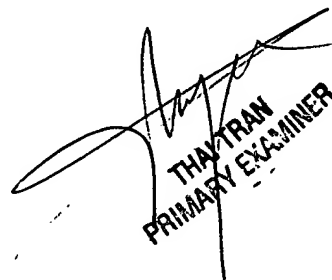
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

                                                        Nelson D. Hernandez
                                                        Examiner
                                                        Art Unit 2612

NDHH
September 16, 2005